



An Analysis of Causal Relationship between Economic Growth and Unemployment: Evidence from Pakistan

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Abstract

The economic prosperity of any nation relies on economic progress. The most significant indicator of economic progress is employment generation and it has a negative impact on the overall economy. When there is an increase in employment opportunities overall economic productivity increases as there increase in the level of living. Unemployment is also related to poverty. A high level of unemployment causes an increase in the level of poverty. This research used data from 1976 to 2017 from various secondary sources. After examining the nature of the time series by using the ADF (Augmented Dickey Fuller) test the ARDL model was used for the analysis. The results illustrate the inverse impact of unemployment on the economic performance of the country. An increase in labor supply causes to increase in unemployment the study concluded that enhanced economic activities increase employment opportunities which leads to an increase in overall economic wellbeing.

Keywords: Unemployment, Gross Domestic Product, Growth, Long run and Short Run Relationship.

1. Introduction

The economic well-being of a country relies on the rate of economic growth. One of the significant economic indexes for economic growth is the employment rate and it has a bad effect on the overall economy. When there is an increase in the employment rate the production level increases as well as increase the pattern of living. Unemployment is also related to poverty. A high level of unemployment causes an increase in the level of poverty. Population increase leads to a rise in the labor supply which causes to increase in unemployment. In addition, economic activities change employment opportunities which leads to changes in economic wellbeing.

Like other advanced countries, employment conditions in Pakistan have been exacerbated in recent years. Employment creation (2.5 %) is very low the rise of the population rate (3.1%). For the last three periods, the real GDP has grown to the level of 6% while the employment level during the same period has reached the level of 2.5%. From (1990-1995) the GDP has grown to the average rate of 4.8 % but the population and labor force have grown to the level of 3%. Pakistan's economic performances during the last 3 decades have been off balance.

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The growth performances during the 1960s have been praised. Real GDP has increased at an annual rate of 6.8% with an increase in advances occurring in the industrial and agriculture sector. The rise in growth rate made it possible to increase the level of investment and foreign support. The investment rate raised from 14.1% in 1960-61 and 22.8% in 1964-65 but averaged 17.5%. The labor force increased by 2.0% in the 1960s with a low inflation rate of 3.8% and a high growth rate in major labor force areas (agriculture and manufacturing up to 73%), unemployment rate remain at 1.43% in the 1960s. By the end of the period, a number of problems arise. The investment level decreased by 22.8 % (1964-65) to 15.8% (1969-70). The decrease in investment started due to a decrease in the growth in the non-agriculture sector. The political disturbance in the late 1960s also affected industrial activities which caused an increase in the unemployment rate, especially in educated youth. In the 1970s there was a major slowdown due to local economic measures and foreign economic surroundings. The division of the eastern region of the land due to political problems caused a major breakdown in the economy (1971).

Government by adding uncertainties during (1972-77) in economic relations cannot be removed by subsequent assurances. Adverse weather conditions also affect agriculture output in the mid-1970. Other external factors also had a negative effect on slowing down economic activities in the early 1960s. The growth rate of agriculture and manufacturing decreased to 2.4% and 5.5% during the 1970s. Real GDP increased by 4.8% in the 1970s. The abrupt decrease in agriculture and manufacturing which are the two largest labor forces absorbing sectors in the country have worsened the unemployment condition in the country. Despite the poor condition of the economy, the unemployment problem was manageable during the 1970s (2.4 %).

After the end of the emigration explosion in the early 1980s, there was still trouble related to employment conditions. However, this duration witnessed good improvement related to the labor demand in the domestic market. Pakistan's economy improved impressively in the 1980s. The real GDP increased at a level of 6.1% and growth in agriculture was 4.1% and 8.2% increase in manufacturing. The rise in high economic expansion leads to the improvement in the workforce with positive developments with a population rate of 3.1%. Continuous increase in economic growth and high rate of unemployment was a great issue in the 1980s. In the first half of the 1990s, economic activity was slow. Real GDP increased at a level of 4.8% and 3.4% increase in agriculture and a 5.9% increase in manufacturing. The economic growth slowed down due to political uncertainty as a result employment situation became worse.

At least 6.7% labor force was unemployed in 1993-94 and 7.1% in 1994-95. As we all know the economic condition of Pakistan has been unstable because of the war and terrorism situation that's why there is a negative effect on the economy and the prices as well. The government was unable to solve and maintain stability in economics. The rise in the rate of joblessness, energy crisis, economic instability, low foreign exchange reserve, low exports and other social and political problems has ruled Pakistan's economy. It also has an adverse impact on the business cycle of economics. In Pakistan, there is a major drawback in other developing countries youth unemployment is connected with armed conflict and political violence. People who are more educated have less concern with political violence. A person who is less educated is more likely to get involved in bad groups and engage in difficult social and political activities and the crime rate will be high. On the other hand, highly educated people are less prone to negative political activities.

2. Literature Review

Unemployment is one of the macroeconomic indicators which causes the inability of the growth process in the economy. Unemployment can be controlled by high production levels and an increase in profits. Due to this reason, the economy cannot recover quickly as a result poverty increases. Such an economy experience depreciation of labor as employers have the upper hand.

Arslan and Zaman (2014) conducted a study to determine the determinants which cause joblessness in the economic situation of Pakistan for the period (1999-2010). It is a social and political issue. Demographic growth rate, FDI, growth of the gross domestic product, expansion rate (independent variable) and the unemployment rate (dependent variable). The outcome of the survey is that FDI has a negative connection with unemployment. The relationship between GDP and negative unemployment. The authority must implement measures to handle demographic growth to overcome the problem of unemployment. Unemployment causes many problems as it increases crime and poverty rates. ARDL approach is used. The outcome shows that gross domestic product, public, expansion and FDI are the main factors of joblessness in Pakistan. The unemployment rate is a dependent variable while GDP, FDI, population, and inflation are independent variables.

Results reveal that all four variables have a significant effect on unemployment. Negative relation occurs between inflation and unemployment. Inducements and technical cognition to the producers and better investments process should be encouraged.

Kreishan (2011) considered the effect of joblessness on economic development in Jordan. For this reason, time series data is employed to cover the implementation of Okun's law. The survey employed an augmented fuller test for unit root and a common regression for joblessness and economic expansion. The data for the study was obtained from the central bank of Jordan and the department of statistics. Two variables joblessness and growth in output rate are used. Amendments in the labor market would be more suitable. Many countries offer unemployment benefits which is a type of government expense but it leads to a reduction in economic development and may cause dejection.

Ahmed et al. (2011) studied the issue problem of unemployment in Pakistan. For this reason, the ARDL model is used by using time series data from (1973-2010). The outcome of this survey shows that rise in gap financing and insecurity results in a rise in joblessness. The results indicate that when unemployment increases output gap will also increase. Productivity and economic uncertainty are negatively related to investment. To check whether the time series data is Stationarity we use the ADF test for unit roots. Government must engage capital plans and also promote personal capital to overcome the joblessness problem. A person who is unemployed for a long time may face financial problems. Unemployed workers lose their expertise due to a lack of implementation.

Shahid (2014) studied the effect of expansion and joblessness on the economic boom in Pakistan. ARDL method is used to determine the results. The expansion of the economy is used as conditional inconstant, and expansion and joblessness as autonomous inconstant. There is an adverse connection between joblessness and economic expansion. The study concluded that self-employment should be encouraged to beat the problem of joblessness. Expenditure of management, political instability, and high inflation rate are harmful to economic growth.

Abbas (2014) studied the long term effect of economic expansion on the unemployment level

(1990-2006) in Pakistan. ARDL method is used to determine the results. The results show that there is an adverse effect between joblessness level and economic boom which is significant in the long run. For example, if there is a one percent rise in the economic expansion then there will be a reduction in unemployment by 1.665 coefficient of parameters is insignificant. The ECM shows short run disequilibrium adjustment in a year. It can be said that economic expansion can be raised by reducing the unemployment level in the long run. As we said that joblessness is a main cause in Pakistan.

Cheema (2014) investigated the key factors of unemployment. ARDL method is used to determine the results. The conclusion reveals that unemployment and gap year has a significant positive relationship statistically. Efficiency and financial insecurity have an important adverse relationship with capital and trade statistically. The output gap should be decreased by maintaining GDP. Government should reduce trade restrictions by using the depreciation policy. Government should adopt investment projects and also promote private investments.

Shabbier et al. (2012) studied the impact of financial community progress and joblessness in Pakistan. ARDL model technique for cointegration is used from the period of 1973- 2007. Financial community indications have a long term connection with joblessness. Increasing money circulation in the economy is negatively related to the employment rate because it increases the unemployment rate. Financial sector activities enhancement can reduce unemployment in the short run and long run. The Granger causality test shows that the loan expenditure to the business sector may improve job possibilities and raise the activity rate.

Maqbool et al. (2013) have studied the key factors of joblessness in Pakistan. It is noted that these variables affect the economy of Pakistan. For this purpose, the ARDL model is used to test the key factors of joblessness.

Nayab and Arif (2012) illustrated that in developing countries the benefits are related to the international migration of the labor class. The research says that remittances have a good impact on the social and economic expansion of ever changing countries. Because of high unemployment rates in many developing countries, the highly skilled labor migrates to developed countries and earns foreign currencies and send them home to their families. An increase in remittances may help in stabilizing the exchange rate, poverty reduction and other sectors. So remittances have a positive impact on unemployment. Exports expansion is believed to have improvements in production by the technical base and increased knowledge and the transfer of technology, increasing the level of employment and capital formation also economic expansion and improvement. Imbalances in the external sector can be filled by export formation.

Khilifa (1997) studied that unemployment is a condition in which people want to work but do not have a job. According to the unemployment theory, the relationship between unemployment and inflation is always negative because of an increase in unemployment with uncontrolled inflation (Cheema, 2014). Umair (2000) studied the correlation between unemployment and the poverty profile of individuals.

3. Data and Methodology

As we can say that unemployment has a major impact on good exports, and personal remittances. Secondary data is data that is collected from past projects rather than present projects. We have taken data ranging from (1976-2017). Gross domestic product, personal remittances, inflation, good exports, and foreign direct investment are been used as variables.

3.1 Model specification

The researcher will have used the impact of joblessness on the chosen variables. Many authors have discussed the impact and the relationship between the variables in which Buffie (1993) examined the effect of unemployment on GDP growth.

Econometric Model:-

$$GDP = f(\alpha_0 + \alpha_1 GEX + \alpha_2 FDI + \alpha_3 PRR + \alpha_4 UNEM + \alpha_5 INF + Ut)$$

In the above equation, GDP is the dependent variable and α_0 is the constant coefficient of the independent variable and GEX is exported goods, FDI is foreign direct investment, PRR is personal Remittances, UNEM is the unemployment rate, INF is the inflation rate and Ut .

3.2 Autoregressive Distributed Lag Approach to Co-integration

ARDL method will be used on the single equation. It will estimate the short and long run parameters of the model. The evaluated model acquired from the ARDL method will be unbiased and effective. ARDL is more useful and effective for small samples. Not all the variables need to be in order in the ARDL method. The variables can be I (0) or I (1) or a mixture of both. If the variables are stationary at a high order of I (1) then ARDL is not used. ARDL has two parts, in the first part F-statistics is used to test the long run relationship between variables to find out the lagged level variables. Second, the long and short run relationships are considered to find the coefficient.

Model: Impact of Unemployment on Economic Growth

$$\Delta(GDP)_t = \alpha_0 + \sum_{i=0}^a \beta_{1i} \Delta(FDI)_{t-i} + \sum_{i=0}^b \beta_{2i} \Delta(INF)_{t-1} + \sum_{i=0}^c \beta_{3i} \Delta(PRR)_{t-1} + \sum_{i=0}^d \beta_{4i} \Delta(GEX) + \sum_{i=0}^e \beta_{5i} \Delta(UNEM)_{t-i} + \mu_t$$

This model will estimate the impact of unemployment on economic growth in which GDP is a Dependent variable while inflation, foreign direct investment, unemployment, personal remittances, and good exports are independent variables. Under this heading, the theoretical problems related to unemployment on economic growth are going to be discussed. Consistent unemployment causes many problems in the economy of a country. When there are more unemployed people in the country the level of productivity and the employment of resources will be less which leads to poor economic growth. Another main issue in Pakistan is poverty which directly influences unemployment. Unemployment causes an increase in government expenditure and decreases in taxation because if people are unemployed from whom the government is going to collect taxes and these unemployed people also cause the crime rate to rise which causes many problems.

3.3 Variables, definitions and Description

I) Exports

Exports are goods and services prepared in one country and bought by citizens of another country. It is produced nationally and sold to someone in a foreign country. It is an export.

II) Foreign direct investment is the form of a monitoring proprietorship in a business in one country by an organization in another country.

(III) Personal remittances

Personal remittances are the number of personal transfers and remuneration of employees.

(IV) Inflation

Inflation shows an overall rise in the cost of services and wares. It is presumed that exports of goods, foreign direct investment, personal remittances and joblessness have a negative relationship with GDP.

Table 1: Descriptive Analyses of Variables

Variables	GDP	INF	FDI	PRR	UNEM	GEX
Mean	5.0076	8.1129	1.01e+09	5.2668	3.8901	13.3239
Median	4.8464	7.7682	2.76e+08	5.1028	4.0650	13.3592
Maximum	10.2157	20.2861	3.64e+09	10.2476	7.8300	17.3593
Minimum	1.0143	2.5293	913392.2	1.4536	0.3977	8.2354
Std. Dev.	2.1338	3.7324	1.27e+09	2.2153	2.1378	2.5869
Skewness	0.1984	0.7531	0.881593	0.0595	-0.0411	-0.2313
Kurtosis	2.5099	3.8987	2.095036	2.1404	2.1859	2.0260

3.4 Stationarity of Data

Time series data and non-stationary variables are used. The spurious regression results can be avoided. If data is a mixture of stationary and non-stationary data ARDL will be applied otherwise some other econometric technique will be applied. The parameters are integrated at I(1) or I(0) or maybe both.

Table 2: ADF Test of Stationary

Variables	ADF level)	Statistic(at difference)	first Order of Integration
GDP	5.1959	-3.6989	I(1)*
FDI	-2.4189	-4.2683	I(1)*
INF	-4.5167	-7.8669	I(0)*
PRR	-1.5689	-5.9876	I(1)*
GEX	0.0046	-6.1964	I(1)*
UNEMPLOYMENT	-2.1891	-7.1361	I(0)*

4. Long run and Short run Results for Unemployment and Economic Growth

To estimate the equation of time series the years ranging from 1976-2017 are used. ARDL method is used to estimate the results. GDP is the dependent variable whereas FDI, GEX, INF, PRR, and UNEM are independent variables. Their relationship is positive while inflation maybe be negative. The empirical testing on nominal versus real economic growth is very difficult. The indirect effect is more complicated compared to the direct effect. The relationship between unemployment and economic growth is very important.

Table 3: Short run Effects of Unemployment on Economic Growth

Regressor	Coefficients	Standard error	T-ratio	[prob]
FDI	0.0000	0.0000	1.1179	0.2738
INF	0.0712	0.0863	0.8258	0.4164
PRR	0.2215	0.2785	0.7953	0.4336
GEX	0.3354	0.1865	1.7981	0.0838
UNEMPLOYMENT	0.0616	0.1870	0.3294	0.7445
C	-1.0665	0.1457	-7.3185	0.0000

The coefficient value of the inflation is 0.071, which shows that there is a 0.071 unit increase in GDP due to a one unit increase in inflation. The impact is statistically insignificant and positive. The coefficient value of the foreign direct investment is 0.0000, which shows that there is a 0.0000 unit increase in GDP due to a one unit increase in foreign direct investment. The impact is insignificant and positive.

The coefficient value of personal remittances is 0.221, which shows that there is a 0.221 unit increase in GDP due to a unit increase in personal remittances. The impact is statistically insignificant and positive. The coefficient value of good export is 0.335, which shows that there is a 0.335 unit increase in GDP due to a one unit increase in goods exports. The impact is statistically significant and positive. The coefficient value of unemployment is 0.061 which shows that there is a 0.061 unit increase in GDP due to a one unit increase in unemployment. The impact is statistically insignificant and positive.

Table 4: Long run Effects of Unemployment on Economic Growth

Regressor	Coefficients	Standard error	T-ratio	[prob]
FDI	0.0000	0.0000	1.0781	0.2909
INF	-0.0089	0.1078	-0.0826	0.9348
PRR	0.9729	0.1907	5.1009	0.0000
GEX	0.3144	0.1889	1.6642	0.1081
UNEMPLOYMENT	0.5043	0.1953	2.5817	0.0158
C	-6.5579	3.6656	-1.7890	0.0853

In the long run, the coefficient value of the foreign direct investment is 0.0000, which shows that there is a 0.0000 unit increase in GDP due to a one unit increase in foreign direct investment. The impact is statistically insignificant and positive. The coefficient value of inflation is - 0.0089, which shows that there is a -0.0089 unit increase in GDP due to a one unit increase in inflation. The impact is statistically insignificant and negative. The coefficient value of personal remittances is 0.9729 which shows that there is a 0.9729 unit increase in GDP due to a one unit increase in personal remittances. The impact is statistically insignificant and positive. The coefficient value of good exports is 0.3144, which shows that there is a 0.3144 unit increase in GDP due to a one unit increase in goods exports. The impact is statistically insignificant and positive. The coefficient value of unemployment is 0.5043, which shows that there is a 0.5043 unit increase in GDP due to a one unit increase in unemployment. The impact is statistically significant and positive.

5. Conclusion

This study prepared to establish the effect of unemployment on economic expansion in Pakistan. Time series data from the duration (1976-2017) have been used. Augmented Distributed Lag (ARDL) method is used to find the short and long run results. Previous

studies on unemployment were reviewed to know the empirical evidence and found multiple results. Furthermore, the trends, size and structure of unemployment have also been examined. The main goal of this survey is to check the macroeconomic effects of joblessness on economic expansion in Pakistan country. For this reason, the ARDL model has been applied. The results of the survey give that unemployment has a negative impact on the increase of the economy in the short significantly. In other words, a rise in unemployment decreases economic expansion in the economy. The conclusion says that the expansion, FDI, and exports of goods play a major role to maintain this problem more efficiently. Inflation in the economy decreases the problem of unemployment to an extent. FDI has a negative impact on joblessness and personal remittances have a positive effect on unemployment and inflation and GDP also has a negative impact on unemployment but good exports have an important connection with an economic boom.

The survey is developed to check the impact of joblessness on the expansion of economics and the relationship between them. For this purpose, time series data from 1976-2017 have been used. The Augmented Distributive Lag (ARDL) method is used. The previous studies on joblessness and economic boom are reviewed to find empirical results. The trends, and patterns of unemployment have also been observed. The variables used in the study are GDP, inflation, FDI, personal remittances and good outputs.

The findings of the conclusion show that joblessness has a definite relationship with personal remittances and good exports and has a negative relationship with inflation, GDP, and FDI. This study has discussed the impact of joblessness on economic expansion in Pakistan. As the result, previous study joblessness has a bad impact on the country. The problems affecting the economy are discussed above but what should be the role of the government in solving these issues and what policies should be adopted to solve these.

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